1 <u>CLAIMS</u>

- We claim:
- 3 1. An apparatus comprising:
- 4 a descriptor table, said apparatus for controlling flow of data between first and second
- 5 data processing systems via a memory, said descriptor table for storing a plurality of
- descriptors for access by the first and second data processing systems; and
- descriptor logic for generating the descriptors for storage in the descriptor table, the
- 8 descriptors including a branch descriptor comprising a link to another descriptor in the
- 9 table.
- 10 2. An apparatus as claimed in claim 1, wherein the descriptors generated by the
- descriptor logic comprise a frame descriptor defining a data packet to be communicated
- between a location in the memory and the second data processing system, and a pointer
- descriptor identifying the location in the memory.
- 14 3. An apparatus as claimed in claim 1, wherein the descriptor table is stored in the
- memory of the first data processing system;
- 4. An apparatus as claimed in claim 1, wherein the descriptor table is stored in a
- memory of the second data processing system.
- 18 5. An apparatus as claimed in claim 1, wherein the descriptor table comprises a
- 19 plurality of descriptor lists sequentially linked together via branch descriptors therein.

- 1 6. An apparatus as claimed in claim 1, wherein the descriptor table comprises a
- 2 cyclic descriptor list.
- 3 7. An apparatus as claimed in claim 1, wherein the first data processing system
- 4 comprises a host computer system.
- 5 8. An apparatus as claimed in claim 1, wherein the second data processing system
- 6 comprises a data communications interface for communicating data between the host
- 7 computer system and a data communications network,
- 8 9. A data processing system comprising:
- 9 a host processing system having a memory, a data communications interface for
- 10 communicating data between the host computer system and a data communications
- 11 network, and
- apparatus as claimed in claim 1, for controlling flow of data between the memory of the
- 13 host computer system and the data communications interface
- 14 10. A method comprising controlling flow of data between first and second data
- processing systems via a memory, the step of controlling comprising:
- storing in a descriptor table a plurality of descriptors for access by the first and second
- data processing systems; and
- by descriptor logic, generating the descriptors for storage in the descriptor table, the
- descriptors including a branch descriptor comprising a link to another descriptor in the
- 20 table.

- 1 11. A method as claimed in claim 10, further comprising, by the descriptor logic,
- 2 generating a frame descriptor defining a data packet to be communicated between a
- 3 location in the memory and the second data processing system, and a pointer descriptor
- 4 identifying the location in the memory.
- 5 12. A method as claimed in claim 10, comprising storing the descriptor table in the
- 6 memory of the first data processing system.
- 7 13. A method as claimed in claim 10, comprising storing the descriptor table in a
- 8 memory of the second data processing system.
- 9 14. A method as claimed in claim 10, comprising forming the descriptor table by
- linking a plurality of descriptor lists in series via branch descriptors therein.
- 11 15. A method as claimed in claim 10, wherein the first data processing system
- comprises a host computer system.
- 13 16. A method as claimed in claim 10, wherein the second data processing system
- comprises a data communications interface for communicating data between the host
- computer system and a data communications network.
- 16 17. A computer program product comprising a computer usable medium having
- 17 computer readable program code means embodied therein for causing control of flow of
- data between first and second data processing systems, the computer readable program
- code means in said computer program product comprising computer readable program
- code means for causing a computer to effect the functions of claim 1.
- 21 18. A computer program product comprising a computer usable medium having
- computer readable program code means embodied therein for causing data processing, the

- 1 computer readable program code means in said computer program product comprising
- 2 computer readable program code means for causing a computer to effect the functions of
- 3 claim 9.
- 4 19. An article of manufacture comprising a computer usable medium having
- 5 computer readable program code means embodied therein for causing control of flow of
- data between first and second data processing systems, the computer readable program
- 7 code means in said article of manufacture comprising computer readable program code
- 8 means for causing a computer to effect the steps of claim 10.
- 9 20. A program storage device readable by machine, tangibly embodying a program of
- instructions executable by the machine to perform method steps for controlling flow of
- data between first and second data processing systems, said method steps comprising the
- steps of claim 10.